D-051482

Table Q-1. Upland Cropland Habitats: Potential CALFED Effects and Conservation Measures

Summary Effect of Implementing CALFED Actions and Conservation Measures on Upland Cropland Habitats: Potential for substantial losses of upland croplands with high wildlife foraging habitat value for associated species (primarily in the Delta Region) as a result of implementing CALFED actions. Overall forage availability for species that use upland cropland habitats, however, would potentially be substantially increased with the restoration or enhancement of natural foraging habitat areas, management of up to approximately 389,000 acres of agricultural lands to improve wildlife habitat values, and implementation of conservation measures to compensate for CALFED impacts on evaluated species.

Associated Evaluated Species: San Joaquin kit fox, Aleutian Canada goose, greater sandhill crane, white-tailed kite, Swainson's hawk, mountain plover, tricolored blackbird, California gull, long-billed curlew, northern harrier, and white-faced ibis.

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
Delta Region					
Associated Evaluated Species: San Joaquin kit fox, Aleutian Canada goose, greater sandhill crane, white-tailed kite, Swainson's hawk, mountain plover, California gull, long-billed curlew, northern harrier, and white-faced ibis.					
Summary Programmatic Action Outcomes E1, E9, E17, E19-22, E24, E25, E28, Q1, Q2, Q7, W3, and W4 are likely to have no discernable effect on upland cropland habitats or associated covered species in the Delta Region.					
Ecosystem Restoration Program					
E4. Provide more natural Delta hydraulic conditions (internal flow and velocity patterns) by altering channel configurations (e.g., setback levees) and physical barriers to channel flow.	E010601, E010602, E010603, E010604, E010605, E010606, E010607	Likely to be no discernable beneficial effects on existing habitat areas and associated evaluation species (N/E).	Potential for loss of high-value wildlife foraging habitat (e.g., cornfields and wheat fields) resulting from conversion of agricultural lands to aquatic, wetland, riparian, or grassland habitat (AE1).	To the extent practicable, restore aquatic, wetland, riparian, and grassland habitats on agricultural lands that have relatively low forage value (e.g., orchards and vineyards) (M1).	Potential for short-term loss of foraging habitat for some species and long-term increase in forage availability and/or quantity with implementation of conservation measures.

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Table Q-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
				Restore or enhance 1-3 acres of suitable natural foraging-habitat areas near affected lands for every acre of affected habitat regularly used by evaluation species and waterfowl to replace forage values of converted agricultural lands before or when project impacts are incurred (M2). Increase suitable forage availability and/or quantity on 1 to 5 acres of agricultural lands near affected lands for every acre of affected habitat regularly used by evaluation species or waterfowl to replace forage values of converted agricultural lands before or when project impacts are incurred (M3).	
			Construction-related activities associated with implementing actions could result in take of evaluated species (AE2).	To the extent practicable, avoid construction activities in habitat areas when evaluation species are present and could be affected by proposed actions (M4).	

D-051483

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Table Q-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
E5a. Restoration of up to 7,500 acres of tidal shallow-water habitat.	E010401, E010402, E010403, E010404, E010405, E010406, E010407, E010901, E010902, E010903, E010904, E010905, E010906, E015201, E015202	N/E	AE1. AE2.	M1. M2. M3 M4.	Potential for short-term loss of foraging habitat for some species and long-term increase in forage availability and/or quantity with implementation of conservation measures.
E8. Restoration of 30,000 to 45,000 acres of tidal fresh emergent wetland.	E010401, E010402, E010404, E010405, E010407, E010606, E011101, E011102, E011201, E011202, E011401, E011402, E011403, E011404, E011405, E015202	Potential for substantial increases in availability and/or quantity of suitable forage habitat for waterfowl and other species that forage in upland cropland habitat and wetlands (BE1).	AE1.	M1. M2. M3	Potential for substantial increases in availability and/or quantity of suitable forage habitat for species that forage in upland cropland habitat and wetlands. Depending on the types of cropland affected, potential for short-term loss of forage abundance or availability forage for some species and some long-term increase in forage availability or abundance with implementation of conservation measures.

D-051484

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Table Q-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
				To the extent consistent with ERP objectives, design wetlands to include transition habitat to uplands and upland buffer habitat area that would support small-mammal populations and provide suitable foraging habitat for raptors and other grassland-associated species (M5).	
			AE2.	M4.	
E10a. Restoration of 85-190 miles of tidal sloughs.	E015201, E015202, E011101, E011102	Potential for some increases in availability and/or quantity of suitable forage habitat for waterfowl and other species that forage in upland cropland habitat and wetlands (BE2).	AE1.	M1.	Potential for increases in availability and/or quantity of suitable forage habitat for species that forage in upland cropland habitat and wetlands. Depending on the types of cropland affected, potential for short-term loss of forage abundance or availability for some species and some long-term increase in forage availability or abundance with implementation of conservation measures.
				M2.	
				M3	
				M5.	
			AE2.	M4.	

D-051485

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D-051486

Table Q-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
E11. Restoration of up to 19,600 acres of nontidal freshwater emergent wetland.	E010403, E010406, E011001, E011002, E011003, E011004, E011005, E011006, E011007, E011301, E011302, E011303, E011304, E011305	BE1.	AE1.	M1.	Potential for substantial increases in availability and/or quantity of suitable forage habitat for species that forage in upland cropland habitat and wetlands. Depending on the types of cropland affected, potential for short-term loss of forage abundance or availability for some species and some long-term increase in forage availability or abundance with implementation of conservation measures.
				M2.	
				M3	
				M5.	
			AE2.	M4.	

D—051486

Table Q-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
E13a. Enhancement of up to 4,000 acres of existing and restoration and management of up to 28,000 acres of seasonal wetlands for wildlife.	E010403, E010406, E011501, E011502, E011503, E011504, E011505, E011506, E011507, E011508, E011509, E011510, E017201, E017202	BE1.	AE1.	M1. M2. M3 To the extent consistent with ERP objectives, manage restored and enhanced seasonal wetlands to maximize the availability or quantity of suitable forage for waterfowl and sandhill cranes (M6).	Potential for substantial increases in availability and/or quantity of suitable forage habitat for species that forage in upland cropland habitat and wetlands. Depending on the types of cropland affected, potential for short-term loss of forage abundance or availability for some species and some long-term increase in forage availability or abundance with implementation of conservation measures.

D-051487

D-051487

Table Q-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
				To the extent consistent with ERP objectives, design restored and enhanced wetlands to include areas of habitat suitable for small mammals that would serve as refugia during periods when wetlands are flooded and provide source populations for reoccupation of wetland areas during periods when wetlands are dry (M7).	
			AE2.	M4.	
E15a. Restoration of 48–85 miles of riparian habitat along channels, restoration of riparian habitat in association with setback levees, protection of 500 acres of existing riparian forest, and reduction of current invasive riparian plants by 50%.	E010501, E010502, E010606, E011101, E011102, E011201, E011202, E011601, E011602, E011603, E011604, E011605, E011606, E011607, E011608, E011609, E014901, E015301, E015302, E015303	N/E	AE1.	M1.	Potential for short-term loss of foraging habitat for some species and long-term increase in forage availability and/or quantity with implementation of conservation measures.
				M2.	
				M3	
			AE2.	M4.	

D-051488

D—051488

Table Q-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
E16a. Restoration of 4,000–6,000 acres of perennial grassland.	E011801, E011802, E011803, E011804, E017201, E017202	Potential for increase in availability and/or quantity of suitable forage habitat for waterfowl and other species that forage in upland cropland habitat and grasslands (BE3).	AE1.	M1.	Depending on the types of cropland affected, potential for substantial increases in availability and/or quantity of suitable forage habitat for some species. Depending on the types of cropland affected, potential for short-term loss of forage abundance or availability for some species and some long-term increase in forage availability or abundance with implementation of conservation measures.
				M2. M3 To the extent consistent with ERP objectives, design and manage restored grasslands to maximize prey abundance and availability for raptors and provide habitat for other grassland-associated species (M8).	
			AE2.	M4.	

D-051489

D—051489

Table Q-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
E18a. Cooperative management of 40,000–75,000 acres of agricultural lands to enhance habitat values for waterfowl and other associated species.	E011901, E011902, E011903, E011904, E011905, E011906, E011907, E007101	Potential for substantial increase in forage abundance and/or availability for waterfowl, sandhill cranes, raptors, and other species that use agricultural lands (BE4).	Potential for loss of foraging habitat for species that use upland cropland habitat, but not agricultural habitats that are seasonally flooded (AE3).	To the extent practicable, avoid seasonal flooding of upland croplands that are regularly used by sandhill cranes and other species that primarily forage in upland habitats (M9). Restore or enhance 1 to 3 acres of suitable natural foraging habitat areas near affected lands for every acre of affected habitat regularly used by evaluation species to replace forage values of upland croplands that are not currently seasonally flooded but would be with implementation of proposed actions before or when project impacts are incurred (M10).	Depending on the types of cropland affected, potential for substantial increases in availability and/or quantity of suitable forage habitat for waterfowl, greater sandhill cranes, raptors, and other species that use agricultural lands. Depending on the types of cropland affected, potential for short-term loss of foraging habitat for species that use upland croplands, but not seasonally flooded agricultural lands and some long-term increase in forage habitat area or quality with implementation of conservation measures.

D-051490

D—051490

Table Q-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
				Increase suitable forage availability and/or quantity on 1 to 5 acres of agricultural lands near affected lands for every acre of affected upland cropland habitat regularly used by evaluation species to replace forage values of upland croplands that are not currently seasonally flooded but would be with implementation of proposed actions before or when project impacts are incurred (M11). To the extent consistent with ERP objectives, provide areas of habitat suitable for small mammals on agricultural lands that would be seasonally flooded with implementation of proposed actions that would serve as refugia during periods when lands are flooded and provide source populations for reoccupation of agricultural lands during periods when they are dry (M12).	

D-051491

D—051491

Table Q-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
			AE2.	To the extent practicable, avoid management activities in habitat areas when evaluation species are present and could be affected by proposed actions (M13).	
E27a. Reduction in the concentrations and loadings of contaminants in the aquatic environment by 25%–50%.	E015701, E015702	Reduction in the use of herbicides and pesticides in or near existing habitat areas could result in an increase in invertebrate populations that are adversely affected by these compounds and that are prey for some evaluation species (BE5).	Potential for loss of upland cropland habitat or forage if actions to reduce herbicide and pesticide loadings include growing crops with lower forage value than crops currently being grown, idling of cropland, or reduction in forage biomass (AE4).	M2. M3.	Potential for short-term loss of forage abundance or availability for some species and long-term increase in forage availability and/or quantity with implementation of conservation measures.
Levee System Integrity Program					
L1. Improvement and maintenance of Delta levees.	L010101, L010102, L010201, L010202, L010301	Long-term protection of existing habitat areas from flooding that would result from levee failures (BE6).	Potential for loss of high-value wildlife foraging habitat (e.g., cornfields and wheat fields) if it is necessary to set levees back to achieve improvements (AE5).	M2. M3.	Potential for short-term loss of foraging habitat for some species and long-term increase in forage availability and/or quantity with implementation of conservation measures.

D-051492

D—051492

Table Q-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
			AE2.	To the extent consistent with program objectives, avoid construction activities in habitat areas when evaluation species are present and could be affected by proposed actions (M14).	
L2. Reduction in the risk to levee stability from subsidence.	L010401, L010402	Potential beneficial effects of the program are not analyzed. The type and magnitude of potential beneficial effects would depend on the type of specific program actions that are implemented (N/A).	Potential adverse effects of the program are not analyzed. The type and magnitude of potential adverse effects would depend on the type of specific program actions that are implemented (N/A).		Potential program effects cannot be evaluated.
Water Quality Program					
Q4. Reduction of pesticide loadings in the aquatic environment.	Q010501	BE5.	AE4.	M2. M3.	Potential for short-term loss of forage abundance or availability for some species and long-term increase in forage availability and/or quantity with implementation of conservation measures.

D-051493

D—051493

Table Q-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
Water Use Efficiency Program					
W1. Support implementation of water management techniques that increase the effectiveness of water-use management and efficiency for agricultural uses.	None.	Potential for increase in upland cropland habitat or forage if actions to increase water-use efficiency results in converting agricultural lands that require extensive seasonal flooding to row or grain crops or eliminates fall or winter flooding of fields to control weeds (BE7).	Potential for loss of upland cropland habitat or forage if actions to improve water-use efficiency includes growing crops with lower forage value than crops that are currently being grown, idling of cropland, or reduction in forage biomass (AE6).	To the extent consistent with program objectives, avoid changing cropping practices on upland croplands that provide high forage values for wildlife (M15). M2. M3.	Potential for increase in upland cropland habitat area or forage availability. Potential for short-term loss of forage abundance or availability for some species and long-term increase in forage availability and/or quantity with implementation of conservation measures.
W2. Support implementation of measures that increase agricultural production per unit of water used, protect water quality, or increase environmental benefits while meeting agricultural needs.	None.	BE7.	AE6	M15. M2. M3.	Potential for increase in upland cropland habitat area or forage availability. Potential for short-term loss of forage abundance or availability for some species and long-term increase in forage availability and/or quantity with implementation of conservation measures.

D-051494

D—051494

Table Q-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
Water Transfer Program					
T1. Implement a framework of actions, policies, and processes that will facilitate transfers and the further development of a statewide water-transfer market.	None.	N/E	Potential for permanent loss of upland cropland habitat if water is transferred from users that manage this habitat type (AE7).	To the extent consistent with program objectives, avoid implementing transfers of water from sources that support upland croplands with high wildlife forage value (M16). M2. M3.	Potential for short-term loss or degradation of existing habitat area if water is transferred from that currently used to irrigate high-value crops and long-term increase in habitat area as a result of implementing conservation measures.
Watershed Management Program					
M1. Fund and implement watershed restoration, maintenance, conservation, and monitoring activities.	None.	N/A	N/A		Potential program effects cannot be evaluated
Conveyance Facilities					
C1. Construct and operate modifications to existing south-Delta conveyance features.	C010101, C010102, C010103, C010104, C010105, C010106, C010107, C010108	N/E	Construction of interties and supporting infrastructure between existing conveyance facilities and export pumps could result in the permanent loss of upland cropland with high wildlife forage habitat value (AE8).	To the extent consistent with program objectives, avoid constructing conveyance facilities and associated infrastructure on upland cropland with high-value wildlife forage habitat (M17). M2.	Potential for short-term loss of foraging habitat for some species and long-term increase in forage availability and/or quantity with implementation of conservation measures.

D-051495

D—051495

Table Q-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
				M3.	
			AE2.	M14.	
C2. Construct and operate modifications to existing north-Delta conveyance features.	C020101, C020102, C020103	N/E	AE8.	M17.	Potential for short-term loss of foraging habitat for some species and long-term increase in forage availability and/or quantity with implementation of conservation measures.
				M2.	
				M3.	
			AE2.	M14.	
C3 Construct and operate an isolated conveyance facility from the Sacramento River along the east side of the Delta to Clifton Court Forebay.	C030101	N/E	AE8.	M17.	Potential for short-term loss of foraging habitat for some species and long-term increase in forage availability and/or quantity with implementation of conservation measures.
				M2.	
				M3.	
			AE2.	M14.	

D-051496

D—051496

Table Q-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
Storage Facilities					
S1. Construct and operate enlarged or new surface storage facilities.	None.	Potential for increase in forage habitat value for some species if storage facilities are located on islands that support crops with little or no forage value and storage islands are operated in a manner that results in the creation of wetland habitats (BE8).	Potential for permanent loss of upland cropland with high-value wildlife forage habitat on Delta islands that are used for storage (AE9). AE2.	To the extent consistent with program objectives, select Delta islands that are farmed with crops that have little or no value as wildlife forage habitat value for use as storage facilities (M18). M2. M3. M4.	Potential for short-term loss of foraging habitat for some species and long-term increase in forage availability and/or quantity with implementation of conservation measures.
Water Operations					
01. Implement operating criteria needed to improve water management for beneficial uses.	None.	N/A	N/A		Potential program effects cannot be evaluated.
02. Implement an Environmental Water Account to provide operational flexibility to achieve environmental benefits.	None.	N/A	N/A		Potential program effects cannot be evaluated.

D-051497

D—051497

Table Q-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
Bay Region					
Associated Evaluated Species: Aleutian Canada goose, white-tailed kite, Swainson's hawk, mountain plover, tricolored blackbird, California gull, long-billed curlew, northern harrier, and white-faced ibis.					
Summary Programmatic Action Outcomes E1, E14, E21, E22, E24, E25, E28, E30, Q2, Q7, Q8, W3, and W4 are likely to have no discernable effect on upland cropland habitats or associated covered species in the Bay Region.					
Ecosystem Restoration Program					
E5b. Restoration of at least 1,500 acres of tidal shallow-water habitat.	E020401, E020901, E021101, E025201	N/E	AE1. AE2.	M1. M2. M3. M4.	Potential for short-term loss of foraging habitat for some species and long-term increase in forage availability and/or quantity with implementation of conservation measures.

D-051498

D—051498

Table Q-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
E7. Protection of 6,200 existing acres and restoration of 7,500–12,000 additional acres of tidal saline emergent wetland.	E020401, E020901, E021101, E027301, E027302, E027303, E023904, E023903, E023904, E027401, E027501, E027601, E025201	BE1.	AE1.	M1.	Potential for substantial increases in availability and/or quantity of suitable forage habitat for species that forage in upland cropland habitat and saline and brackish wetlands. Depending on the types of cropland affected, potential for short-term loss of forage abundance or availability for some species and some long-term increase in forage availability or abundance with implementation of conservation measures.
				M2.	
				M3.	
				M5.	
			AE2.	M4.	

D-051499

D—051499

Table Q-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
E10b. Restoration of 35-70 miles of tidal sloughs.	E021101	BE2.	AE1.	M1.	Potential for increases in availability and/or quantity of suitable forage habitat for species that forage in upland cropland habitat and wetlands. Depending on the types of cropland affected, potential for short-term loss of forage abundance or availability for some species and some long-term increase in forage availability or abundance with implementation of conservation measures.
				M2.	
				M3	
				M5.	
			AE2.	M4.	
E12. Restoration of up to 1,600 acres of nontidal deep open-water habitat adjacent to existing and restored wetlands.	E021001, E021002	N/E	AE1.	M1.	Potential for short-term loss of foraging habitat for some species and long-term increase in forage availability and/or quantity with implementation of conservation measures.
				M2.	
				M3.	

D-051500

D—051500

Table Q-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
			AE2.	M4.	
E13b. Restoration of 1,000-1,500 acres of seasonal wetland and enhancement and management of 40,000-50,000 acres of existing seasonal wetlands for wildlife.	E021501, E021502, E021503	BE1.	AE1.	M1. M2. M3 To the extent consistent with ERP objectives, manage enhanced seasonal wetlands to maximize the availability or quantity of suitable forage for waterfowl (M19). M7.	Potential for substantial increases in availability and/or quantity of suitable forage habitat for species that forage in upland cropland habitat and wetlands. Depending on the types of cropland affected, potential for short-term loss of forage abundance or availability for some species and some long-term increase in forage availability or abundance with implementation of conservation measures.
			AE2.	M4.	

D-051501

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Table Q-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
E15b. Restoration of 50-75 miles of riparian habitat along channels and reduction of populations of invasive non-native riparian plants by 50%.	E021601, E025301, E025302	N/E	AE1. AE2.	M1. M2. M3 M4.	Potential for short-term loss of foraging habitat for some species and long-term increase in forage availability and/or quantity with implementation of conservation measures.
E16b. Restoration of up to 5,000 acres of perennial grassland.	E021801	BE3.	AE1.	M1. M2. M3 M8.	Depending on the types of cropland affected, potential for substantial increases in availability and/or quantity of suitable forage habitat for some species. Depending on the types of cropland affected, potential for short-term loss of forage abundance or availability for some species and some long-term increase in forage availability or abundance with implementation of conservation measures.

D-051502

D—051502

Table Q-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
			AE2.	M4.	
Levee System Integrity Program					
L3. Enhancement of the level of flood protection provided by Suisun Marsh levees.	None.	BE6.	AE5. AE2.	M2. M3. M14.	Potential for short-term loss of foraging habitat for some species and long-term increase in forage availability and/or quantity with implementation of conservation measures.
Water Quality Program					
Q4. Reduction of pesticide loadings in the aquatic environment.	Q020501	BE5.	AE4.	M2. M3.	Potential for short-term loss of forage abundance or availability for some species and long-term increase in forage availability and/or quantity with implementation of conservation measures.

D-051503

D—051503

Table Q-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
Water Use Efficiency Program					
W1. Support implementation of water management techniques that increase the effectiveness of water-use management and efficiency for agricultural uses.	None.	BE7.	AE6.	M15. M2. M3.	Potential for increase in upland cropland habitat area or forage availability. Potential for short-term loss of forage abundance or availability for some species and long-term increase in forage availability and/or quantity with implementation of conservation measures.
W2. Support implementation of measures that increase agricultural production per unit of water used, protect water quality, or increase environmental benefits while meeting agricultural needs.	None.	BE7.	AE6	M15. M2. M3.	Potential for increase in upland cropland habitat area or forage availability. Potential for short-term loss of forage abundance or availability for some species and long-term increase in forage availability and/or quantity with implementation of conservation measures.

D-051504

D—051504

Table Q-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
Water Transfer Program					
T1. Implement a framework of actions, policies, and processes that will facilitate transfers and the further development of a statewide water-transfer market.	None.	N/E	AE7.	M16. M2. M3.	Potential for short-term loss or degradation of existing habitat area if water is transferred from that currently used to irrigate high-value crops and long-term increase in habitat area as a result of implementing conservation measures.
Watershed Management Program					
M1. Fund and implement watershed restoration, maintenance, conservation, and monitoring activities.	None.	N/A	N/A		Potential program effects cannot be evaluated
Sacramento River Region					
Associated Evaluated Species: Aleutian Canada goose, greater sandhill crane, white-tailed kite, Swainson's hawk, mountain plover, tricolored blackbird, California gull, long-billed curlew, northern harrier, and white-faced ibis.					
Summary Programmatic Action Outcomes E1, E3, E22-26, Q1, Q2, Q3, Q7, W3, W4, and S1 are likely to have no discernable effect on upland cropland habitats or associated covered species in the Sacramento River Region.					

D-051505

D—051505

Table Q-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
Ecosystem Restoration Program					
E2. Improvement in the supply of sediment to rivers and streams necessary for providing spawning gravels and rehabilitation of related ecological processes (e.g., stream meander) and floodplain habitats (e.g., riparian habitats).	E030201, E030202, E030301, E030302, E030303, E030604, E031602, E040201, E040202, E040203, E040301, E040402, E050201, E050202, E050203, E060401, E070201, E070202, E070203, E080201, E080202, E080203, E080303, E090201, E090401, E090403, E090404, E090407, E090409, E100201, E100202, E105101	N/E	Potential for loss of high-value wildlife foraging habitat (e.g., cornfields and wheat fields) resulting from actions to reintroduce erosional processes by setting levees back or otherwise allowing banks to erode (AE10). AE2.	M2. M3. M4.	Potential for short-term loss of foraging habitat for some species and long-term increase in forage availability and/or quantity with implementation of conservation measures.
E6. Restoration and maintenance of riverine aquatic habitats.	E031602, E030301, E030302, E030303, E030604, E040301, E040402, E050201, E050202, E050203, E050301, E050401, E050402, E050403, E050404, E050405, E060401, E070201, E070202, E070203, E080301, E080302, E080303, E080401, E080402, E090401, E090402, E090403, E090404, E090407, E090408, E090408, E091604, E091605, E090201	N/E	AE1.	M1. M2. M3.	Potential for short-term loss of foraging habitat for some species and long-term increase in forage availability and/or quantity with implementation of conservation measures.

D-051506

D—051506

Table Q-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
			AE2.	M4.	
E13c. Enhancement and management of up to 73,325 acres of existing seasonal wetlands for wildlife.	E061501, E061502, E071501, E071502, E081501, E081502, E090405, E090406, E091501, E091502	BE1.	AE1.	M1. M2. M3 M19. M7. M4.	Potential for substantial increases in availability and/or quantity of suitable forage habitat for species that forage in upland cropland habitat and wetlands. Depending on the types of cropland affected, potential for short-term loss of forage abundance or availability of forage for some species and some long-term increase in forage availability or abundance with implementation of conservation measures.
			AE2.		

D-051507

D—051507

Table Q-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
E15c. Protection and enhancement of 9,000–13,000 acres of riparian habitat in meander zones along the Sacramento River and its tributaries; protection, enhancement, and restoration of riparian habitat and shaded riverine aquatic (SRA) cover along other reaches of the Sacramento River and its tributaries; and reduction of populations of non-native invasive plants.	E031601, E031602, E031603, E031604, E031605, E030302, E030303, E030304, E035301, E035302, E040301, E040401, E041601, E041602, E041603, E051601, E051602, E051603, E061601, E065301, E071601, E071603, E071604, E080301, E080302, E080303, E080401, E081601, E081602, E081603, E090401, E090403, E090404, E090407, E091601, E091602, E091603, E091606, E095301, E101601, E101602, E101603, E101604, E105301	N/E	AE1. AE2.	M1. M2. M3 M4.	Potential for short-term loss of foraging habitat for some species and long-term increase in forage availability and/or quantity with implementation of conservation measures.

D-051508

D—051508

Table Q-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
E16c. Restoration of perennial grassland associated with existing or restored wetlands in the American River basin.	E091801	BE3.	AE1.	M1.	Depending on the types of cropland affected, potential for substantial increases in availability and/or quantity of suitable forage habitat for some species. Depending on the types of cropland affected, potential for short-term loss of forage abundance or availability of forage for some species and some long-term increase in forage availability or abundance with implementation of conservation measures.
				M2.	
				M3	
				M8.	
			AE2.	M4.	

D-051509

D—0 5 1 5 0 9

Table Q-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
E18b. Cooperative management of up to 298,643 acres of agricultural lands to enhance habitat values for waterfowl and other associated species.	E061901, E061902, E061903, E071901, E071902, E071903, E081901, E091901, E091902	BE4.	AE3.	M9.	Depending on the types of cropland affected, potential for substantial increases in availability and/or quantity of suitable forage habitat for waterfowl, greater sandhill cranes, raptors, and other species that use agricultural lands. Depending on the types of cropland affected, potential for short-term loss of foraging habitat for species that use upland croplands but not seasonally flooded agricultural lands and some long-term increase in forage habitat area or quality with implementation of conservation measures.
				M10.	
				M11.	
				M12.	
			AE2.	M13.	

D-051510

D—051510

Table Q-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
E27b. Reduction in the concentrations and loadings of contaminants in the aquatic environment.	E035702, E035703, E035704, E095701, E095702, E105701, E105702	BE5.	AE4.	M2. M3.	Potential for short-term loss of forage abundance or availability for some species and long-term increase in forage availability and/or quantity with implementation of conservation measures.
Water Quality Program					
Q4. Reduction of pesticide loadings in the aquatic environment.	Q030501, Q040501, Q050501, Q060501, Q070501, Q080501, Q090501, Q100501	BE5.	AE4.	M2. M3.	Potential for short-term loss of forage abundance or availability for some species and long-term increase in forage availability and/or quantity with implementation of conservation measures.

D-051511

D—051511

Table Q-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
Water Use Efficiency Program					
W1. Support implementation of water management techniques that increase the effectiveness of water-use management and efficiency for agricultural uses.	None.	BE7.	AE6	M15. M2. M3.	Potential for increase in upland cropland habitat area or forage availability. Potential for short-term loss of forage abundance or availability for some species and long-term increase in forage availability and/or quantity with implementation of conservation measures.
W2. Support implementation of measures that increase agricultural production per unit of water used, protect water quality, or increase environmental benefits while meeting agricultural needs.	None.	BE7.	AE6	M15. M2. M3.	Potential for increase in upland cropland habitat area or forage availability. Potential for short-term loss of forage abundance or availability for some species and long-term increase in forage availability and/or quantity with implementation of conservation measures.

D-051512

D—051512

Table Q-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
Water Transfer Program					
T1. Implement a framework of actions, policies, and processes that will facilitate transfers and the further development of a statewide water-transfer market.	None.	N/E	AE7.	M16. M2. M3.	Potential for short-term loss or degradation of existing habitat area if water is transferred from that currently used to irrigate high-value crops and long-term increase in habitat area as a result of implementing conservation measures.
Watershed Management Program					
M1. Fund and implement watershed restoration, maintenance, conservation, and monitoring activities.	None.	N/A	N/A		Potential program effects cannot be evaluated

D-051513

D—051513

Table Q-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
Storage Facilities					
S2. Construct and operate new groundwater storage facilities.	None.	N/E	Potential for loss of high-value upland cropland foraging habitat within the constructed footprint of storage facilities and associated infrastructure (AE11). AE2.	M1. M2. M3. M4.	Potential for short-term loss of foraging habitat for some species and long-term increase in forage availability and/or quantity with implementation of conservation measures.
Water Operations					
01. Implement operating criteria needed to improve water management for beneficial uses.	None.	N/A	N/A		Potential program effects cannot be evaluated.
02. Implement an Environmental Water Account to provide operational flexibility to achieve environmental benefits.	None.	N/A	N/A		Potential program effects cannot be evaluated.

D-051514

D—051514

Table Q-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
San Joaquin River Region					
Associated Evaluated Species: San Joaquin kit fox, Aleutian Canada goose, greater sandhill crane, white-tailed kite, Swainson's hawk, mountain plover, tricolored blackbird, California gull, long-billed curlew, northern harrier, and white-faced ibis.					
Summary Programmatic Action Outcomes E1, E22-26, E29, Q1, Q2, Q5, Q7, W3, W4, and S1 are likely to have no discernable effect on upland cropland habitats or associated covered species in the San Joaquin River Region.					
Ecosystem Restoration Program					
E2. Improvement in the supply of sediment to rivers and streams necessary for providing spawning gravels and rehabilitation of related ecological processes (e.g., stream meander) and floodplain habitats (e.g., riparian habitats).	E110201, E110202, E110203, E110204, E110205, E110206, E110207, E110208, E110209, E130201, E130202, E130203, E130301, E130302, E130303, E130304, E130305, E130306, E130307, E130402, E135601, E140401, E140403	N/E	AE10. AE2.	M2. M3. M4.	Potential for short-term loss of foraging habitat for some species and long-term increase in forage availability and/or quantity with implementation of conservation measures.
E6. Restoration and maintenance of riverine aquatic habitats.	E110401, E110401, E130301, E130302, E130303, E130304, E130305, E130306, E130307, E130402, E135601, E131601, E131602, E131603, E140401, E140402, E140403	N/E	AE1. AE2.	M1. M2. M3. M4.	Potential for short-term loss of foraging habitat for some species and long-term increase in forage availability and/or quantity with implementation of conservation measures.

D-051515

D—051515

Table Q-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
E13d. Protection and enhancement of up to 172,800 acres of seasonal wetlands in the San Joaquin River Ecological Management Zone and protection and enhancement of existing seasonal wetlands elsewhere in the San Joaquin River Region.	E111501, E121501, E121502, E141501, E141502	BE1.	AE1.	M1.	Potential for increases in availability and/or quantity of suitable forage habitat for species that forage in upland cropland habitat and wetlands. Depending on the types of cropland affected, potential for short-term loss of forage abundance or availability of forage for some species and some long-term increase in forage availability or abundance with implementation of conservation measures.
				M2.	
				M3	
				M19.	
				M7.	
			AE2.	M4.	

D-051516

D—051516

Table Q-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
E15d. Restore up to 4,720 acres of riparian and shaded riverine aquatic habitat; protection and enhancement of up to 1,000 acres of riparian habitat in meander zones along San Joaquin River tributaries; restoration of up to 75 miles of riparian habitat along the San Joaquin River and its tributaries; protection, enhancement, and restoration of riparian habitat and SRA cover along other reaches of the San Joaquin River and its tributaries; and reduction of populations of non-native invasive plants along the northern tributaries to the San Joaquin River.	E110401, E111601, E111602, E111603, E111604, E111605, E111606, E111607, E111608, E111609, E111610, E111611, E111612, E111613, E111614, E111615, E115301, E121601, E121602, E121603, E124901, E130301, E130302, E130303, E130304, E130305, E130306, E130307, E130401, E131601, E131602, E131603, E134101, E134103, E140401, E140402, E140403, E141601	N/E	AE1. AE2.	M1. M2. M3 M4.	Potential for short-term loss of foraging habitat for some species and long-term increase in forage availability and/or quantity with implementation of conservation measures.

D-051517

D—051517

Table Q-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
E18c. Cooperative management of up to 15,290 acres of agricultural lands to enhance habitat values for waterfowl and other associated species.	121901, 141901	BE4.	AE3.	M9.	Depending on the types of cropland affected, potential for substantial increases in availability and/or quantity of suitable forage habitat for waterfowl, greater sandhill cranes, raptors, and other species that use agricultural lands. Depending on the types of cropland affected, potential for short-term loss of foraging habitat for species that use upland croplands but not seasonally flooded agricultural lands and some long-term increase in forage habitat area or quality with implementation of conservation measures.
				M10.	
				M11.	
				M12.	
			AE2.	M13.	

D-051518

D—051518

Table Q-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
E27b. Reduction in the concentrations and loadings of contaminants in the aquatic environment.	E115701, E115702, E115703, E125701, E125702	BE5.	AE4.	M2. M3.	Potential for short-term loss of forage abundance or availability for some species and long-term increase in forage availability and/or quantity with implementation of conservation measures.
Water Quality Program					
Q4. Reduction of pesticide loadings in the aquatic environment.	Q120501, Q130501, Q140501, Q140502	BE5.	AE4.	M2. M3.	Potential for short-term loss of forage abundance or availability for some species and long-term increase in forage availability and/or quantity with implementation of conservation measures.
Q6. Reduction in selenium concentrations and loadings to the aquatic environment.	Q140701, Q140702, Q140703, Q140704, Q140705, Q140706, Q140707	N/E	Potential for loss of high-value upland cropland foraging habitat area if these croplands are retired to reduce selenium loadings (AE12).	M2. M3.	Potential for short-term loss of forage abundance or availability for some species and long-term increase in forage availability and/or quantity with implementation of conservation measures.

D-051519

D—051519

Table Q-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
Water Use Efficiency Program					
W1. Support implementation of water management techniques that increase the effectiveness of water-use management and efficiency for agricultural uses.	None.	BE7.	AE6	M15. M2. M3.	Potential for increase in upland cropland habitat area or forage availability. Potential for short-term loss of forage abundance or availability for some species and long-term increase in forage availability and/or quantity with implementation of conservation measures.
W2. Support implementation of measures that increase agricultural production per unit of water used, protect water quality, or increase environmental benefits while meeting agricultural needs.	None.	BE7.	AE6	M15. M2. M3.	Potential for increase in upland cropland habitat area or forage availability. Potential for short-term loss of forage abundance or availability for some species and long-term increase in forage availability and/or quantity with implementation of conservation measures.

D-051520

D—051520

Table Q-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
Water Transfer Program					
T1. Implement a framework of actions, policies, and processes that will facilitate transfers and the further development of a statewide water-transfer market.	None.	N/E	AE7.	M16. M2. M3.	Potential for short-term loss or degradation of existing habitat area if water is transferred from that currently used to irrigate high-value crops and long-term increase in habitat area as a result of implementing conservation measures.
Watershed Management Program					
M1. Fund and implement watershed restoration, maintenance, conservation, and monitoring activities.	None.	N/A	N/A		Potential program effects cannot be evaluated

D-051521

D—051521

Table Q-1. Continued

Summary Programmatic Action Outcomes	Applicable Programmatic Actions	Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program	Overall Effect of Summary Programmatic Action Outcomes with Conservation Measures
Storage Facilities					
S2. Construct and operate new groundwater storage facilities.	None.	N/E	AE11. AE2.	M1. M2. M3. M4.	Potential for short-term loss of foraging habitat for some species and long-term increase in forage availability and/or quantity with implementation of conservation measures.
Water Operations					
01. Implement operating criteria needed to improve water management for beneficial uses.	None.	N/A	N/A		Potential program effects cannot be evaluated.
02. Implement an Environmental Water Account to provide operational flexibility to achieve environmental benefits.	None.	N/A	N/A		Potential program effects cannot be evaluated.

Contributors to the development of this table: Todd Sloat, Pete Rawlings, and Gerrit Platenkamp of Jones & Stokes Associates.

D-051522

D—051522

D-051523

Table Q-2. Key to Table Q-1 Potential Beneficial Effects, Potential Adverse Effects, and Conservation Measures Codes

Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program
Potential for substantial increases in availability and/or quantity of suitable forage habitat for waterfowl and other species that forage in upland cropland habitat and wetlands (BE1).	Potential for loss of high-value wildlife foraging habitat (e.g., cornfields and wheat fields) resulting from conversion of agricultural lands to aquatic, wetland, riparian, or grassland habitat (AE1).	To the extent practicable, restore aquatic, wetland, riparian, and grassland habitats on agricultural lands that have relatively low forage value (e.g., orchards and vineyards) (M1).
Potential for some increases in availability and/or quantity of suitable forage habitat for waterfowl and other species that forage in upland cropland habitat and wetlands (BE2).	Construction-related activities associated with implementing actions could result in take of evaluated species (AE2).	Restore or enhance 1-3 acres of suitable natural foraging-habitat areas near affected lands for every acre of affected habitat regularly used by evaluation species and waterfowl to replace forage values of converted agricultural lands before or when project impacts are incurred (M2).
Potential for increase in availability and/or quantity of suitable forage habitat for waterfowl and other species that forage in upland cropland habitat and grasslands (BE3).	Potential for loss of foraging habitat for species that use upland cropland habitat, but not agricultural habitats that are seasonally flooded (AE3).	Increase suitable forage availability and/or quantity on 1 to 5 acres of agricultural lands near affected lands for every acre of affected habitat regularly used by evaluation species or waterfowl to replace forage values of converted agricultural lands before or when project impacts are incurred (M3).
Potential for substantial increase in forage abundance and/or availability for waterfowl, sandhill cranes, raptors, and other species that use agricultural lands (BE4).	Potential for loss of upland cropland habitat or forage if actions to reduce herbicide and pesticide loadings include growing crops with lower forage value than crops currently being grown, idling of cropland, or reduction in forage biomass (AE4).	To the extent practicable, avoid construction activities in habitat areas when evaluation species are present and could be affected by proposed actions (M4).
Reduction in the use of herbicides and pesticides in or near existing habitat areas could result in an increase in invertebrate populations that are adversely affected by these compounds and that are prey for some evaluation species (BE5).	Potential for loss of high-value wildlife foraging habitat (e.g., cornfields and wheat fields) if it is necessary to set levees back to achieve improvements (AE5).	To the extent consistent with ERP objectives, design wetlands to include transition habitat to uplands and upland buffer habitat area that would support small-mammal populations and provide suitable foraging habitat for raptors and other grassland-associated species (M5).

D—0515523

Table Q-2. Continued

Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program
Long-term protection of existing habitat areas from flooding that would result from levee failures (BE6).	Potential for loss of upland cropland habitat or forage if actions to improve water-use efficiency includes growing crops with lower forage value than crops that are currently being grown, idling of cropland, or reduction in forage biomass (AE6).	To the extent consistent with ERP objectives, manage restored and enhanced seasonal wetlands to maximize the availability or quantity of suitable forage for waterfowl and sandhill cranes (M6).
Potential for increase in upland cropland habitat or forage if actions to increase water-use efficiency results in converting agricultural lands that require extensive seasonal flooding to row or grain crops or eliminates fall or winter flooding of fields to control weeds (BE7).	Potential for permanent loss of upland cropland habitat if water is transferred from users that manage this habitat type (AE7).	To the extent consistent with ERP objectives, design restored and enhanced wetlands to include areas of habitat suitable for small mammals that would serve as refugia during periods when wetlands are flooded and provide source populations for reoccupation of wetland areas during periods when wetlands are dry (M7).
Potential for increase in forage habitat value for some species if storage facilities are located on islands that support crops with little or no forage value and storage islands are operated in a manner that results in the creation of wetland habitats (BE8).	Construction of interties and supporting infrastructure between existing conveyance facilities and export pumps could result in the permanent loss of upland cropland with high wildlife forage habitat value (AE8).	To the extent consistent with ERP objectives, design and manage restored grasslands to maximize prey abundance and availability for raptors and provide habitat for other grassland-associated species (M8).
Potential beneficial effects of the program are not analyzed. The type and magnitude of potential beneficial effects would depend on the type of specific program actions that are implemented (N/A).	Potential for permanent loss of upland cropland with high-value wildlife forage habitat on Delta islands that are used for storage (AE9).	To the extent practicable, avoid seasonal flooding of upland croplands that are regularly used by sandhill cranes and other species that primarily forage in upland habitats (M9).
Likely to be no discernable beneficial effects on existing habitat areas and associated evaluation species (N/E).	Potential for loss of high-value wildlife foraging habitat (e.g., cornfields and wheat fields) resulting from actions to reintroduce erosional processes by setting levees back or otherwise allowing banks to erode (AE10).	Restore or enhance 1 to 3 acres of suitable natural foraging habitat areas near affected lands for every acre of affected habitat regularly used by evaluation species to replace forage values of upland croplands that are not currently seasonally flooded but would be with implementation of proposed actions before or when project impacts are incurred (M10).

D-051524

D—051524

Table Q-2. Continued

Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program
	Potential for loss of high-value upland cropland foraging habitat within the constructed footprint of storage facilities and associated infrastructure (AE11).	Increase suitable forage availability and/or quantity on 1 to 5 acres of agricultural lands near affected lands for every acre of affected upland cropland habitat regularly used by evaluation species to replace forage values of upland croplands that are not currently seasonally flooded but would be with implementation of proposed actions before or when project impacts are incurred (M11).
	Potential for loss of high-value upland cropland foraging habitat area if these croplands are retired to reduce selenium loadings (AE12).	To the extent consistent with ERP objectives, provide areas of habitat suitable for small mammals on agricultural lands that would be seasonally flooded with implementation of proposed actions that would serve as refugia during periods when lands are flooded and provide source populations for reoccupation of agricultural lands during periods when they are dry (M12). To the extent practicable, avoid management activities in habitat areas when evaluation species are present and could be affected by proposed actions (M13). To the extent consistent with program objectives, avoid construction activities in habitat areas when evaluation species are present and could be affected by proposed actions (M14). To the extent consistent with program objectives, avoid changing cropping practices on upland croplands that provide high forage values for wildlife (M15).

D-051525

D—051525

Table Q-2. Continued

Potential Beneficial Effects	Potential Adverse Effects	Conservation Measures Incorporated into the Program
		To the extent consistent with program objectives, avoid implementing transfers of water from sources that support upland croplands with high wildlife forage value (M16).
		To the extent consistent with program objectives, avoid constructing conveyance facilities and associated infrastructure on upland cropland with high-value wildlife forage habitat (M17).
		To the extent consistent with program objectives, select Delta islands that are farmed with crops that have little or no value as wildlife forage habitat value for use as storage facilities (M18).
		To the extent consistent with ERP objectives, manage enhanced seasonal wetlands to maximize the availability or quantity of suitable forage for waterfowl (M19).

D-051526

D-051526